

### **Abstract of the Disclosure**

The invention relates to a device for measuring time-resolved volumetric throughflow processes, especially injection process in internal combustion engines, having a translational volume difference sensor having a piston disposed in a measuring compartment and a detection device detecting the excursion of the piston, the detection device being linked with an evaluation unit. According to the invention, a pressure sensor is mounted in the measuring compartment in addition to the detection device which detects the excursion of the piston. The signal of the detection device corresponding to the excursion of the piston can be better evaluated as the compressivity of the fluid in the measuring compartment can be taken into consideration for the calculation of the amount to be injected. The inventive device allows for a highly time-resolved representation of throughflow processes so that both overall amount and exact course of the throughflow can be represented and evaluated.